

RTV5812, RTV5818

RTV5810 Series
One-Component, Modified Alkoxy Adhesive Sealants

Product Description RTV5810 Series sealants are neutral cure, one-component, ready to use silicone adhesive sealants that cure to tough resilient silicone rubber on exposure to atmospheric moisture at room temperature. These sealants are fast curing paste consistency products designed for use where quick initial adhesion build is desired. This allows for movement of the sealed assemblies in a shorter period of time increasing productivity.

- Key Performance Properties**
- Primerless adhesion to many metals and plastics
 - Non-corrosive to most substrates
 - Low odour cure
 - Good confined cure properties
 - One-component product - No mixing required
 - Retain elastomeric properties at temperatures of -60C to 204C for long periods and to 260C for short periods
 - Room temperature cure
 - Excellent electrical insulation properties
 - Excellent UV, chemical and weather resistance

Applications The cure properties of these adhesive sealants make them ideally suited for applications in confined spaces. These paste-consistency silicone sealants can be used in thickness up to 6mm for bonding and sealing, joining metals and plastics, and electrical insulation. For applications requiring sealant thickness greater than 6mm, Momentive performance materials one component, addition cure or two component silicone rubber compounds are recommended.

Typical Product Data

Typical Uncured Properties	RTV5810 Series
RTV5812 – White and RTV5818 - Translucent	
Consistency	Paste
Density, g/cm ³	1.04
Application Rate, g/min.	360
Tack Free Time, minutes	15
Cure Through Time, hours	12
Typical Cured Properties	RTV5810 Series
Hardness, Shore A	24
Tensile Strength, MPa	2.1
Elongation, %	435
Tear Strength, N/mm	7.1
Peel Strength, N/mm	8 (47)

Electrical	
Dielectric Strength, kV/mm	17
Dielectric Constant @ 100 Hz	2.8
Dissipation Factor @ 100 Hz	0.002
Volume Resistivity, ohm-cm	2×10^{15}
Thermal	
Brittle Point, °C	-60
Thermal Conductivity, W/m K	0.18
Coefficient of Thermal Expansion, mm/mm/°C	3.0×10^{-4}

⁽¹⁾ Cured 7 days at 25°C (77°F) and 50% relative humidity.

⁽²⁾ Information is provided for customer convenience. These properties are not tested on a routine basis.

Specifications Typical product data values should not be used as specifications. Assistance and specifications are available by contacting Momentive performance materials Technical Service RTV1 and RTV2.

Instructions for Use **SURFACE PREPARATION**

RTV5810 series sealants will bond to many clean surfaces without the aid of primers. These surfaces include many metals, glass, ceramic, silicone rubber and some rigid plastics.

Surfaces should be thoroughly cleaned with a suitable solvent to remove dirt, oil, grease and surface contaminants. The surface should be wiped dry before applying the adhesive sealant.

Due to substrate variability, an evaluation should be made to determine whether acceptable bond strength develops for each specific application. For difficult to bond substrates, use of a primer is suggested. SS4004P, SS4044P and SS4179 primers from Momentive performance materials are recommended for use with these sealants. Complete information and usage instructions for these primers are contained in a separate product data sheet.

These adhesive sealants may be applied directly to clean or primed substrates. Where broad surfaces are to be mated, the sealant should be applied in a thin, less than 6mm diameter bead or ribbon around the edge of the surface to be bonded.

The cure process begins with the formation of a skin on the exposed surface of the sealant and progresses inward through the material. Due to its fast curing nature, at 25°C/50% RH RTV5810 will form a skin and become tack free in only 15-20 minutes. Once the tack free skin has begun to form, further tooling of the adhesive sealant is not recommended.

As the adhesive sealant cures, methyl alcohol and residual ammonia vapours are released from the sealant surface.

Because these adhesive sealants cure by reacting with atmospheric moisture, higher temperatures and humidity will accelerate the cure process. Lower temperatures and humidity will slow the cure rate. Exact cure time will depend on temperature, humidity, sample thickness and sealant configuration. Since cure time increases with thickness, use of these adhesive sealants should be limited to section thickness of 6mm.

PHYSICAL PROPERTY DEVELOPMENT

In addition to the effects of temperature and relative humidity, development of maximum bond strength will depend on joint configuration, degree of confinement, sealant thickness and substrate porosity. Normally, sufficient bond strength will develop in 4-6 hours for RTV5810 to permit handling of parts. Stress should not be applied to the bonded joint until full adhesive strength has developed. Eventually the adhesive strength of the bond will exceed the cohesive strength of the silicone rubber adhesive sealant itself. Always allow maximum cure time available for best results.

NON-CORROSIVE PROPERTIES

RTV5810 series adhesive sealants comply with the non-corrosive requirements of MIL-A-46146B on aluminum and steel.

When allowed to cure in enclosed conditions, these sealants will discolour sensitive metals such as copper and brass. When allowed to cure in non-enclosed conditions, these sealants may discolour sensitive metals such as copper and brass but only when in direct contact.

CLEANUP AND REMOVAL

Before cure, solvent systems such as naphtha or methyl ethyl ketone (MEK) are most effective. After cure, selected chemical strippers which will remove the silicone rubber are available from other manufacturers. Specific product information may be obtained on request.

Handling and Safety Material Safety Data Sheets are available upon request from Momentive performance materials. Similar information for solvents and other chemicals used with the Momentive performance materials products should be obtained from your supplier. When solvents are used, proper safety precautions must be observed.

Storage and Warranty Period The warranted shelf life will be indicated by the 'use before date' on the associated documents with a minimum of 4 months when stored in the original unopened containers below 27° C.

Availability RTV5812 and RTV5818 are available in 18 kg pails and 204 kg drums.



PRINCIPAL LOCATIONS – Regional Information

North America	World Headquarters 187 Danbury Road Wilton, CT 06897, USA	T 800.295.2392	F 607.754.7517
Latin America	Rodovia Eng. Constância Cintra, Km 78,5 Itatiba, SP – 13255-700, Brazil	T +55.11.4534.9650	F +55.11.4534.9660
Europe, Middle East, Africa and India	D-51368 Leverkusen Germany	T 00.800.4321.1000 T +31.164.293.276	F +31.164.241.750
Pacific	Akasaka Park Building - 5-2-20 Akasaka Minato-ku, Tokyo 107-6112 Japan	T +81.3.5544.3100	F +81.3.5544.3101

CUSTOMER SERVICE CENTERS

North America	Charleston, WV 25314, USA E cs-na.silicones@momentive.com		
	• Specialty Fluids	T 800.523.5862	F 304.746.1654
	• UA, Silanes, Resins, and Specialties	T 800.334.4674	F 304.746.1623
	• RTV Products-Elastomers	T 800.332.3390	F 304.746.1623
	• Sealants and Adhesives & Construction	T 877.943.7325	F 304.746.1654
Latin America	E cs-la.silicones@momentive.com		
	• Argentina & Chile	T +54.11.4862.9544	F +54.11.4862.9544
	• Brazil	T +55.11.4534.9650	F +55.11.4534.9660
	• Mexico & Central America	T +52.55.5899.5135	F +52.55.5899.5138
	• Venezuela, Ecuador, Peru, Colombia, & Caribbean	T +58.212.285.2149	F +58.212.285.2149
Europe, Middle East, Africa and India	E cs-eur.silicones@momentive.com	T 00.800.4321.1000 T +31.164.293.276	F +31.164.241750
	E cs-ap.silicones@momentive.com		
Pacific	• Japan	T +81.276.20.6182	
	• China	T +86.21.5050.4666 (ext. 1523)	
	• Korea	T +82.2.6201.4600	
	• Singapore	T +65.6220.7022	
Worldwide Hotline	Worldwide Web www.momentive.com	T 800.295.2392 T +607.786.8131	F +607.786.8309

DISCLAIMER: THE MATERIALS, PRODUCTS AND SERVICES OF MOMENTIVE PERFORMANCE MATERIALS INC., MOMENTIVE PERFORMANCE MATERIALS USA INC., MOMENTIVE PERFORMANCE MATERIALS ASIA PACIFIC PTE. LTD., MOMENTIVE PERFORMANCE MATERIALS WORLDWIDE INC., MOMENTIVE PERFORMANCE MATERIALS GmbH & Co. KG, MOMENTIVE PERFORMANCE MATERIALS SUISSE Sarl, THEIR SUBSIDIARIES AND AFFILIATES DOING BUSINESS IN LOCAL JURISDICTIONS (collectively "SUPPLIERS"), ARE SOLD BY THE RESPECTIVE LEGAL ENTITY OF THE SUPPLIER SUBJECT TO SUPPLIERS' STANDARD CONDITIONS OF SALE, WHICH ARE INCLUDED IN THE APPLICABLE DISTRIBUTOR OR OTHER SALES AGREEMENT, PRINTED ON THE BACK OF ORDER ACKNOWLEDGMENTS AND INVOICES, AND AVAILABLE UPON REQUEST. ALTHOUGH ANY INFORMATION, RECOMMENDATIONS, OR ADVICE CONTAINED HEREIN IS GIVEN IN GOOD FAITH, SUPPLIERS MAKE NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, (i) THAT THE RESULTS DESCRIBED HEREIN WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN INCORPORATING SUPPLIERS' PRODUCTS, MATERIALS, SERVICES, RECOMMENDATIONS OR ADVICE. AFOREMENTIONED EXCLUSIONS OR LIMITATION OF LIABILITY ARE NOT APPLICABLE TO THE EXTENT THAT THE END-USE CONDITIONS AND/OR INCORPORATION CONDITIONS CORRESPOND TO THE RECOMMENDED CONDITIONS OF USE AND/OR OF INCORPORATION AS DESCRIBED BY SUPPLIER IN ITS PRODUCT DATA SHEET AND/OR PRODUCT SPECIFICATIONS.

EXCEPT AS PROVIDED IN SUPPLIERS' STANDARD CONDITIONS OF SALE, SUPPLIERS AND THEIR REPRESENTATIVES SHALL IN NO EVENT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS MATERIALS, PRODUCTS OR SERVICES DESCRIBED HEREIN.

Each user bears full responsibility for making its own determination as to the suitability of Suppliers' materials, services, recommendations, or advice for its own particular use. Each user must identify and perform all tests and analyses necessary to assure that its finished parts incorporating Suppliers' products, materials, or services will be safe and suitable for use under end-use conditions. Nothing in this or any other document, nor any oral recommendation or advice, shall be deemed to alter, vary, supersede, or waive any provision of Suppliers' Standard Conditions of Sale or this Disclaimer, unless any such modification is specifically agreed to in a writing signed by Suppliers. No statement contained herein concerning a possible or suggested use of any material, product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Suppliers or any of its subsidiaries or affiliates covering such use or design, or as a recommendation for the use of such material, product, service or design in the infringement of any patent or other intellectual property right.